

Form PTO-1449 (modified)

Atty. Docket No.

Serial No.

IOWA:020/MSB

09/446,581

Applicant

Pedro J. Alvarez et al.

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date:

December 21, 1999

Group:

Unknown

## U.S. Patent Documents

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## Foreign Patent Documents

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## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
FP	A1	4,554,101	11/19/1985	Hopp			

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
PP	B1	52130150	11/1/1977	Japan			NO
FP	B2	02/119992	5/8/90	Japan			NO
PP	B3	0522946	1/13/93	Europe			NO
PP	B4	0595441	5/4/94	Europe			

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
FP	C1	Aguilar <i>et al.</i> , "Degradation of volatile fatty acids by differently enriched methanogenic cultures: Kinetics and inhibition," <i>Water Res.</i> , 29(2):505-509, 1995.
PP	C2	Assaf-Anid <i>et al.</i> , "Reductive dechlorination of carbon tetrachloride by cobalmin(II) in the presence of dithiothreitol: Mechanistic study, effect of redox potential and pH," <i>Environ. Sci. Technol.</i> , 28(2):246-252, 1994.
PP	C3	Belay and Daniels, "Elemental metals as electron sources for biological methane formation from carbon dioxide," <i>Antonie van Leeuwenhoek</i> , 57(1):1-8, 1990.
PP	C4	Blowes <i>et al.</i> , "Passive remediation of groundwater using <i>in situ</i> treatment curtains," <i>In: Geoenvironment 2000: Characterization, Containment, Remediation, and Performance in Environmental Geotechnics</i> , Yalcin BA, Daniel DE, eds., Geotechnical Special Publication No. 46, American Society of Civil Engineers, New York, 2:1608-1621, 1995.
PP	C5	Chiu and Reinhard, "Metallocoenzyme-mediated reductive transformation of carbon tetrachloride in titanium (III) citrate aqueous solution," <i>Environ. Sci. Technol.</i> , 29(3):595-603, 1995.

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*Yel R.*

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**List of Patents and Publications for Applicant's  
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**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
FP	C6	Chiu and Reinhard, "Transformation of carbon tetrachloride by reduced vitamin B <sub>12</sub> in aqueous cysteine solution," <i>Environ. Sci. Technol.</i> , 30:1882-1889, 1996.
FP	C7	Daniels <i>et al.</i> , "Bacterial methanogenesis and growth from CO <sub>2</sub> with elemental iron as the sole source of electrons," <i>Science</i> , 237:509-511, 1987.
FP	C8	Doong and Wu, "Reductive dechlorination of chlorinated hydrocarbons in aqueous solutions containing ferrous and sulfide ions," <i>Chemosphere</i> , 24(8):1063-1075, 1992.
FP	C9	Freedman and Gossett, "Biodegradation of dichloromethane and its utilization as a growth substrate under methanogenic conditions," <i>Appl. Environ. Microbiol.</i> , 57(10):2847-2857, 1991.
FP	C10	Gantzer and Wackett, "Reductive dechlorination catalyzed by bacterial transition-metal coenzymes," <i>Environ. Sci. Technol.</i> , 25(4):715-722, 1991.
FP	C11	Gillham and O'Hannesin, "Enhanced degradation of halogenated aliphatics by zero-valent iron," <i>Groundwater</i> , 32(6):958-967, 1994.
FP	C12	Gould, "The kinetics of hexavalent chromium reduction by metallic iron," <i>Water Res.</i> , 26:871-877, 1992.
FP	C13	Hansen <i>et al.</i> , "Abiotic nitrate reduction to ammonium: Key role of green rust," <i>Envir. Sci. Technol.</i> , 30(6):2053-2056, 1996.
FP	C14	Holland <i>et al.</i> , "Reductive dechlorination of carbon tetrachloride with elemental iron," <i>J. Hazard Mater.</i> , 41:205-216, 1995.
FP	C15	Holliger <i>et al.</i> , "A highly purified enrichment culture couples the reductive dechlorination of tetrachloroethylene to growth," <i>Appl. Environ. Microbiol.</i> , 59:2991-2997, 1993.
FP	C16	Johnson <i>et al.</i> , "Kinetics of halogenated organic compound degradation by iron metal," <i>Environ. Sci. Technol.</i> , 30:2634-2640, 1996.
FP	C17	Lewis, "Factors influencing the stability and properties of green rusts," <i>Advances in GeoEcology</i> , 30:345-372, 1997.
FP	C18	Matheson and Tratnyek, "Reductive dehalogenation of chlorinated methanes by iron metal," <i>Environ. Sci. Technol.</i> , 28:2045-2053, 1994.

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FP	C19	Matheson and Tratnyek, "Abiotic and biotic processes affecting the dechlorination of chlorinated solvents by zero-valent iron," <i>Abstracts of Papers</i> , 20th ACS National Meeting, American Chemical Society, March 13-17, 1994, Abstract No. 135.
FP	C20	Morrison <i>et al.</i> , "Coupled Reaction/Transport Modeling of a Chemoical Barrier for Controlling Uranium(VI) contamination in Groundwater," <i>J. Contaminant Hydrology</i> , 17:343-363, 1995.
FP	C21	Myneni <i>et al.</i> , "Abiotic selenium redox transformations in the presence of Fe(II,III) oxides," <i>Science</i> , 278:1106-1109, 1997.
FP	C22	O'Hannesin and Gillham, "In situ degredation of halogenated organics by permeable reaction wall," <i>EPA Groundwater Currents</i> , 542:1-2, 1993.
FP	C23	Olowe <i>et al.</i> , "La présence simultanée de rouille verte 2 et de bactéries sulfato-réductrices en corrosion perforante de palplanches en zone portuaire," <i>C.R. Acad. Sci. Paris</i> , t. 314, Série II, pl. 1157-1163, 1992.
FP	C24	Orth and Gillham, "Dechlorination of trichloroethylene in aqueous solution using Fe <sup>0</sup> ," <i>Environ. Sci. Technol.</i> , 30:66-71, 1996.
FP	C25	Perkins <i>et al.</i> , "Effects of electron donors and inhibitors on reductive dechlorination of 2,4,6-trichlorophenol," <i>Water Res.</i> , 28(10):2101-2107, 1994.
FP	C26	Powell <i>et al.</i> , "Coupled iron corrosion and chromate reduction: mechanisms for subsurface remediation," <i>Environ. Sci. Technol.</i> , 29:1913-1922, 1995.
FP	C27	Powell & Puls., "Proton Generation by Dissolution of Intrinsic or Augmented Aluminosilicate Ninerals for In Situ Contaminant Generation by Zero-Valence-State Iron," <i>Environ. Sci. Technol.</i> 1997, 31 (8), 2244-2251.
FP	C28	Reardon, "Anaerobic corrosion of granular iron: measurement and interpretation of hydrogen evolution rates," <i>J. Environ. Sci. Technol.</i> , 29:2936-2945, 1996.
FP	C29	Roberts <i>et al.</i> , "Reductive elimination of chlorinated ethylenes by zero-valent metals," <i>Environ. Sci. Technol.</i> , 30(8):2654-2659, 1996.
FP	C30	Stromeyer <i>et al.</i> , "Dichloromethane utilized by an anaerobic mixed culture: acetogenesis and methanogenesis," <i>ABSTRACT, Biodegradation</i> , 2(2):129-137, 1991.
FP	C31	Sweeny, "The reductive treatment of industrial wastewaters. II process applications," <i>AIChE Symp. Ser.</i> , 77:72-78, 1980.

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List of Patents and Publications by Applicant's

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FP	C33	Thiel, "The effect of methane analogues on methanogenesis in anaerobic digestion," <i>Water Res.</i> , 3:215-223, 1969.
FP	C34	Till <i>et al.</i> , "Fe(0)-supported autotrophic denitrification," <i>Environ. Sci. Technol.</i> , 32(5), 634-639, 1998.
FP	C35	Trolard <i>et al.</i> , "Mise en évidence d'un constituant de type << rouilles vertes << dans les sols hydromorphes. Proposition de l'existence d'un nouveau minéral: la << fougérite >>," Trolard, Abdelmoula, Bourrié, Humbert and Génin," <i>C.R. Acad. Sci. Paris</i> , t. 323, série II a, p. 1015-1022, 1996.
FP	C36	Vidic and Pohland, "Treatment Walls", <i>Groundwater Remediation Technologies Analysis Center</i> , Technology Evaluation Report TE-96-01. University of Pittsburgh, Pittsburgh, PA, October 1996.
FP	C37	Weathers <i>et al.</i> , "Chloroform cometabolism by a methanogenic consortium utilizing zero-valent iron as ultimate electron donor," <i>Abst. Gen. Meet. Am. Soc. Microbiol.</i> , 95(0):399, 1995.
FP	C38	Weathers, "Biological and metallic iron-promoted transformations of carbon tetrachloride and chloroform under methanogenic conditions," Ph.D. Dissertation, University of Iowa, 1995.
FP	C39	Weathers <i>et al.</i> , "Methanogens couple anaerobic Fe(0) oxidation and CHCl <sub>3</sub> reduction," <i>Abst. Papers Am. Chem. Soc.</i> , 209(1-2):ENVR225, 1995.
FP	C40	Wild <i>et al.</i> , "Anaerobic dechlorination of trichloroethene, tetrachloroethene and 1,2-dichloroethane by an acetogenic mixed culture in a fixed-bed reactor," <i>ABSTRACT, Biodegradation</i> , 6(4):309-318, 1995.
FP	C41	Wong and Neumann, "Electric field mediated gene transfer," <i>Biochim. Biophys. Res. Commun.</i> , 107(2):584-587, 1982.
FP	C42	Yamamoto <i>et al.</i> , "Kinetics and modeling of hexavalent chromium reduction in <i>Enterobacter cloacae</i> ," <i>Biotechnol. Bioeng.</i> , 41:129-133, 1993.
FP	C43	Yang and Speece, "The effects of chloroform toxicity on methane fermentation," <i>Water Res.</i> , 20(10):1273-1280, 1986.

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